

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 11 May 1999 (11.05.99)	<b>Applicant's or agent's file reference</b> 9758 PCT
<b>International application No.</b> PCT/IL98/00442	<b>Priority date (day/month/year)</b> 11 September 1997 (11.09.97)
<b>International filing date (day/month/year)</b> 10 September 1998 (10.09.98)	
<b>Applicant</b> LEVY, Avraham, A. et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

25 March 1999 (25.03.99)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

C. Carrié

Telephone No.: (41-22) 338.83.38



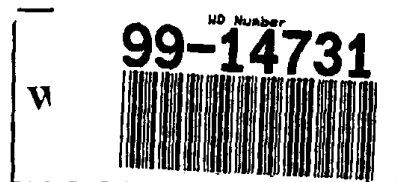
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>G09G 3/34</b>	<b>A1</b>	(11) International Publication Number: <b>WO 99/14731</b> (43) International Publication Date: 25 March 1999 (25.03.99)								
<p>(21) International Application Number: PCT/US98/19409</p> <p>(22) International Filing Date: 17 September 1998 (17.09.98)</p> <p>(30) Priority Data:</p> <table border="0"> <tr> <td>60/059,161</td> <td>17 September 1997 (17.09.97)</td> <td>US</td> </tr> <tr> <td>60/065,133</td> <td>12 November 1997 (12.11.97)</td> <td>US</td> </tr> <tr> <td>09/145,314</td> <td>31 August 1998 (31.08.98)</td> <td>US</td> </tr> </table> <p>(71) Applicant: LIGHT &amp; SOUND DESIGN [US/US]; 1415 Lawrence Drive, Newbury Park, CA 91320 (US).</p> <p>(72) Inventor: HUNT, Mark, A.; 40 Etwall Street, Derby DE22 3DU (GB).</p> <p>(74) Agent: HARRIS, Scott, C.; Fish &amp; Richardson P.C., Suite 1400, 4225 Executive Square, La Jolla, CA 92037 (US).</p>	60/059,161	17 September 1997 (17.09.97)	US	60/065,133	12 November 1997 (12.11.97)	US	09/145,314	31 August 1998 (31.08.98)	US	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>
60/059,161	17 September 1997 (17.09.97)	US								
60/065,133	12 November 1997 (12.11.97)	US								
09/145,314	31 August 1998 (31.08.98)	US								
<p>(54) Title: PIXEL BASED GOBO RECORD CONTROL FORMAT</p> <div data-bbox="321 1144 1372 1323"> </div> <p>(57) Abstract</p> <p>A special record format used for commanding light pattern shapes and addressable light pattern shape generator. The command format includes a first part which commands a specified gobo (8) and a second part which commands the characteristics (8) of that gobo. The gobo (8) is formed by making a default gobo (1) based on the type and modifying that default gobo (1) to fit the characteristics.</p>										

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REPUBLICATION

Nombre de pages 2



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# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REPLACED BY  
ART. 34 AMDT

Applicant's or agent's file reference 9758 PCT		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IL98/00442	International filing date (day/month/year) 10/09/1998	Priority date (day/month/year) 11/09/1997	
International Patent Classification (IPC) or national classification and IPC A01H1/04			
Applicant YEDA RESEARCH AND DEVELOPMENT CO. LTD. et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 29/03/1999	Date of completion of this report 27.01.00
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Pille, S Telephone No. +49 89 2399 2097 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/IL98/00442

**I. Basis of the report**

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

**Description, pages:**

1-20,22-30	as originally filed		
21	as received on	03/02/1999 with letter of	31/01/1999

**Claims, No.:**

1-44 as originally filed

**Drawings, sheets:**

1/7-7/7 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

4. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
- ☒ claims Nos. 12-17, 41-44.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/IL98/00442

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the said claims Nos. 12-17, 41-44.

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☒ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

**see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/IL98/00442

☐ the parts relating to claims Nos. .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	7, 8, 10, 18-21, 24, 25, 33-40
	No:	Claims	1-6, 9, 11, 22, 23, 26-32
Inventive step (IS)	Yes:	Claims	33-36
	No:	Claims	1-11, 18-32, 37-40
Industrial applicability (IA)	Yes:	Claims	1-11, 18-40
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

**VI. Certain documents cited**

**1. Certain published documents (Rule 70.10)**

and / or

**2. Non-written disclosures (Rule 70.9)**

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**ad IV**

- 1). The application is considered to lack unity for the same reasons as given by the International Search Authority.

**ad V**

- 2). The present application does not meet the requirements of Article 33(2) PCT, because the subject-matter of claims 1-6, 9, 11, 22, 23, 26-32 is not new over Bishop et al. In this document a population of miniature seeds of reduced size is provided (tomatoes of line 851Q). This line is capable of crossing with a commercial plant of the same species (fig. 1). Line 851Q has been rendered transgenic by a mutagenising agent (p. 359, bottom par.). There is selection for a desired trait: p. 960, 1st par.: " (...) facilitated characterisation of (...) screened, 20 dwarf progeny were recovered (...)".

Feature (a) (ii) of claims 1 and 22 is considered to be known from this document since it does not have a limitation on the scope of the claim (see section VIII).

- 3). As the mutation inducing agents of claims 7, 8, 24 and 25 are well known for use with miniature tomatoes (see document XP-002109549 or XP-002109548), these claims are not considered to be inventive.

Claims 10 and 37-40 do not contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

- 4). Bishop et al, which is considered to represent the most relevant state of the art, discloses (see passages cited above and p. 963, bottom par.) an identifying method, from which the subject-matter of claims 18-21 differs in that the second primer corresponds to the gene of interest. From XP-002109549 it is known that PCR with different primers is used for correctly identifying tomatoes with desired traits. Therefore, the subject-matter of these claims is not considered to be



inventive.

- 5). Knapp et al. and Goldsbrough et al. disclose a method for identifying a nucleotide sequence in tomato in which the screenable marker is GUS and the mobile DNA sequence is T-DNA or a transposable element. However, there is no immediate reason as to why such a method should be used with miniature plants. Therefore, the subject-matter of claim 37 and its dependent claims is considered to be new and inventive.

**Ad VI**

- 6). Although Meisner et al. does not constitute prior art within the meaning of R. 64.1 (b) PCT, it appears to be very relevant with respect to novelty and inventive step of claims 1-9.

**Ad VII**

- 7). The relevant background art disclosed in Bishop et al. should be mentioned in the description (Rule 5.1(a)(ii) PCT).

**Ad VIII**

- 8). Claims 1, 18, 22 and 33 are unclear since there is no general accepted definition for "standard growth conditions used for a commercial plant". Therefore, the scope of these claims is indefinite.
- 9). The term "said miniature crop plant cultivar" used in claim 22 has no antecedent.

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Date of submission of the demand  <b>29/03/1999</b>	Date of completion of this report  <b>27. 01. 00</b>
Name and mailing address of the international preliminary examining authority:   <b>European Patent Office</b> <b>D-80298 Munich</b> <b>Tel. +49 89 2399 - 0 Tx: 523656 epmu d</b> <b>Fax: +49 89 2399 - 4465</b>	Authorized officer  <b>Pille, S</b>  <b>Telephone No. +49 89 2399 2097</b> 

**INTERNATIONAL PRELIMINARY  
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International application No. PCT/IL98/00442

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**INTERNATIONAL PRELIMINARY  
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International application No. PCT/IL98/00442

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	No:	Claims	1-11, 18-32, 37-40
Industrial applicability (IA)	Yes:	Claims	1-11, 18-40
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

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**1. Certain published documents (Rule 70.10)**

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method (Dellaporta et al., 1983), with an additional phenol chloroform extraction. PCR reactions were performed using Promega *Taq* polymerase according to conditions recommended by the manufacturers, with 2.5 mM MgCl<sub>2</sub>, and 200 μM dNTPs in an MJ thermocycler. The following program was used: 2 min denaturation at 94°C and 30 cycles of 1 min at 94°C, 45 min at 55°C, 1 min at 72°C, and a final step of 5 min at 72°C. The primers used to amplify *Ds* excision products were: pr2, 5' GGATAGTGGGATTGTGCGTC 3' (SEQ ID NO: 1), which is complementary to sequences in the 35S promoter, and pr1, 5' GGATGATTTGTTGGGGTTTA 3' (SEQ ID NO: 2), which is complementary to sequences in the ALS gene (Figure 3). Bands of the expected size for excision products (ca. 322 bp) were extracted from the agarose gel, and DNA was purified using GenClean according to the manufacturer's instructions. These PCR products were cloned into a pGEM-T vector (Promega) and sequenced using the T7 or SP6 primers. For Southern analysis, 2 μg genomic DNA was digested with *Hind*III, fractionated on 0.8% agarose gels, and transferred to a nitrocellulose membrane purchased from MSI. Hybridization was performed according to manufacturer's instructions. An internal GUS fragment of 1 kb was amplified by PCR, radiolabeled by the random priming method (Feinberg and Vogelstein, 1983), and used as a probe for *Ds* detection.

**(b) Results:** Constructs Ds378-GUS, Bam35S-Ac, DsE, and DsG were transformed into 'Micro-Tom' as described.

These constructs contain the NPTII gene which confers resistance to kanamycin. NPTII can be used as a transformation marker to detect the presence of the T-DNA and to map *Ds* elements relative to their donor site in Ds378-GUS, or for the selection of unlinked transposition events with DsE and DsG. One advantage of this gene is its use as a non-destructive reporter in whole tomato plants. Spraying 'Micro-Tom' plants at most developmental stages, with 300 μg/ml kanamycin on three successive days, as previously described (Weide et al., 1989), allows identification of kanamycin-sensitive plants without their destruction. In such plants, the young leaves next to the shoot tip become white shortly after spraying, as shown in Figure 4. Figure 4A depicts three-week-old 'Micro-Tom' plants following three spray treatments (one per day) with 300 μg/l kanamycin. Kanamycin-resistant plants, transformed with Bam35S-Ac (top panel) were compared to wild-type, sensitive